

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.





1.9  
En 3 Pa

## INSULATION ON THE FARM

LIBRARY  
RECEIVED  
★  
JUL 10 1933  
U.S. DEPARTMENT OF AGRICULTURE  
BUREAU OF AGRICULTURAL ENGINEERING

... radio talk by Wallace Ashby, Bureau of Agricultural Engineering, delivered in the Department of Agriculture period in the National Farm and Home Hour Wednesday, July 5, 1933, and broadcast by a network of 48 associate NBC radio stations.

Friends of the Farm and Home Audience:

I'm going to talk to you today about insulating farm buildings against heat and cold to make them more comfortable and efficient. I know that the subject won't have an immediate interest for many of you; who don't have the cash for such a project this year. But some of you are doubtless planning improvements, and as moderately good times come back to the farm the insulation of houses, barns, and so on, is going to be a very practical subject.

Anticipating the time when you will be interested, our agricultural engineers joined with the National Committee on Wood Utilization in a study of efficient insulation practices. The results are given in a booklet published by the Committee, and you may have a copy of this booklet without charge.

Now let's consider a few of the principles of insulating buildings. You know, natural instinct often leads to practical solutions of our problems. For instance, on a hot day both people and animals like to get under the shade of a tree. The leaves are natural insulators against the sun's heat, and even if there is no breeze there is good ventilation outdoors. In a blizzard a natural instinct tells us to burrow in a snowdrift to keep from freezing. Likewise, we know that in a cold climate the animals grow heavy coats of fur for warmth in winter. In all these cases protection against heat or cold is furnished by materials which have insulating properties.

The problem before us in our study was, how can a farmer apply insulation principles to his own buildings. Well, take the farmhouse. When the summer sun beats on the roof it creates an almost unbearable heat in the attic, and this heat passes through the ceilings into the rooms below. If we followed the example of the tree we would place insulating material between the roof and the ceiling of the house and also provide openings for ventilation so that the hot air in the attic could escape. In the winter, when Jack Frost blows his cold breath on the house, it would be fine if we could cover it with a fur coat. The fur would also be a great protection against the sun in summer, though of course fur is too expensive for such use. Fortunately there are a number of cheaper things which are better. These are the various kinds of insulation.

Sawdust and shavings are examples of materials which for years have been used as insulation for packing ice and to some extent in buildings. More recently new and improved insulating materials have been developed. There are several types, some made from wood, others from vegetable fiber or from mineral substances. Some of these insulating materials are in the form of boards, some like blankets and others are loose flakes or shreds for filling between studs and joists. Each

(over)



type is described fully in the booklet I told you about, and there is useful information about the proper thickness to use for different purposes. Now if we apply a suitable layer of an insulating material over the ceiling of the house, or under the roof in case the attic space is to be occupied, we establish the same kind of protection against heat and cold that the fur coat would have given, but at much less cost. The walls of the house may need to be treated in the same manner, if the climatic conditions are severe, but the insulation of the ceiling or the roof is most important.

People who have insulated their houses in this manner are enthusiastic about the improvement in comfort and saving in fuel.

Now for the animals. Every farmer knows that comfortable buildings promote the well-being of his livestock, and that comfortable cows are better milkers, comfortable hens are better layers, and that baby chicks and young pigs have a better chance under proper temperature conditions. While we are about it, let's not forget the farm produce. Insulated milk cooling tanks and storage buildings for vegetables and fruit help to keep these products in good condition and secure the best prices for them.

Insulation on the farm is an old idea which has been revised and has gained greater prominence during the last few years. I cannot go into further details here, but as I told you, a committee of men familiar with the use of insulation under farm conditions has cooperated with the Departments of Agriculture and Commerce in the preparation of a non-technical handbook entitled "Insulation on the Farm." This book describes the different kinds of insulation and how to use them for farm buildings. The insulation of houses is described in another booklet entitled "House Insulation" which is of interest to both farmers and city people. Both of these booklets were published by the National Committee on Wood Utilization of the Department of Commerce, Washington, D. C. and you may have copies without charge.